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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,254	12/12/2003	Kun-soo Kim	1793.1005	8678

21171 7590 05/16/2007

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EXAMINER	
NGUYEN, LINH THI	
ART UNIT	**PAPER NUMBER**
2627	

MAIL DATE	DELIVERY MODE
05/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/733,254	KIM ET AL.	
	Examiner	Art Unit	
	Linh T. Nguyen	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 February 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,7,8,11-13 and 15-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3, 7, 8, 11-13 and 15-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 3, 13, 18-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim t al (US Patent number 6041027).

In regards to claims 1, 18 and 22, Kim et al discloses a compatible optical pickup apparatus and method comprising: a first light module (Fig. 1, element 10) to records information on and reproduces information from a first optical recording medium having a first format (Column 3, lines 33-35) radiates a first beam having a first wavelength (Fig. 1, solid lines), and receives the first beam reflected from the first optical recording medium to detect an information signal and an error signal (Fig. 1, element 12); a second light module (Fig. 1, element 20) to records information on and reproduces information from a second optical recording medium having a second format different from the first format (Column 3, lines 33-35), radiates a second beam (Fig. 1, dash lines) having a second wavelength different from the first wavelength, and receives the second beam reflected from the second optical recording medium to detect an information signal and an error signal (Fig. 1, element 22); a beam splitter (Fig. 1, element 30) disposed along paths of the first and second beams and which changes the paths of the first and second light beams (Fig. 1); an objective lens (Fig. 1, element 60) which condenses the first and second light beams to form a light spot on the first and

second optical recording media (Fig. 1, CD and DVD), respectively; and a monitoring photodetector (Fig. 1, element 40) disposed along a third light path, which receives the portions of the first and second light beams from the beam splitter so as to monitor powers of the first and second light modules (Fig. 1), wherein the beam splitter is a cubic beam splitter which transmits most of the first beam emitted from the first light module so that most of the first beam proceeds to the objective lens, and reflects most of the second beam emitted format he second light module so that most of the second beam proceeds to the objective lens (column 3, lines 58-66).

In regards to claim 2, Kim et al discloses the compatible optical pickup apparatus of claim 1, wherein the first light module (Fig. 1, element 10) comprises: a first light source which emits the first beam (Fig. 1 solid lines); a first photodetector which receives the first beam reflected from the first optical recording medium (Fig. 1, element 12) to detect an information signal and an error signal; and a first hologram element (Fig. 1, element 13a) which transmits the first beam so that the first beam proceeds to the beam splitter, and diffracts the reflected first beam so that the diffracted light proceeds to the first photodetector (Column 3, lines 48-53).

In regards to claim 3, Kim et al discloses the compatible optical pickup apparatus of claim 1, wherein the second light module (Fig. 1, element 20) comprises: a second light source which emits the first beam (Fig. 1 dash lines); a second photodetector which receives the second beam reflected from the second optical recording medium

(Fig. 1, element 22) to detect an information signal and an error signal; and a first hologram element (Fig. 1, element 23a) which transmits the first beam so that the first beam proceeds to the beam splitter, and diffracts the reflected first beam so that the diffracted light proceeds to the first photodetector (Column 3, lines 48-53).

In regards to claims 13 and 21, Kim et al discloses the compatible optical pickup apparatus of claim 1, wherein optical output of the first and second light modules is controlled by a controller based on the received portions of the first and second beams (Column 4, lines 3-7).

In regards to claim 19, Kim et al discloses the optical pickup of claim 18, wherein the fist and second optical recording media use different formats (Column 3, lines 33-35).

In regards to claim 20, Kim et al discloses the optical pickup of claim 18, wherein the monitoring photodetector opposes the beam splitter (Fig. 1).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 7, 8, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al in view of Ichimura et al (US Publication number 20050163033).

In regards to claim 7, Kim et al discloses everything claimed in claim 1. However, Kim does not disclose an optical pickup apparatus comprising first and second collimating lenses which are respectively disposed on an optical path between the first light module and the beam splitter and an optical path between the second light module and the beam splitter.

In the same field of endeavor, Ichimura et al discloses an optical pickup apparatus comprising first and second collimating lenses which are respectively disposed on an optical path between the first light module and the beam splitter and an optical path between the second light module and the beam splitter (Fig. 14, elements 17 and 21). At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the pickup apparatus of Kim to include collimator lens as suggested by Ichimura et al. The motivation would have been to diverge the beam to the prism.

In regards to claim 8, Kim does not but Ichimura et al discloses, wherein a cross-sectional area of the light transmitted by the beam splitter is adjustable by varying a distance between the first and second light modules and the first and second collimating lenses, respectively (Fig. 14). The motivation is the same as claim 7 above.

In regards to claim 15, Kim et al does not but Ichimura et al discloses a half-wavelength plate (Fig. 14, element 18) disposed on one of an optical path between the first light module (Fig. 14,element 16) and the beam splitter (Fig. 14,element 20) and an optical path between the second light module and the beam splitter (Fig. 14, element 22) and which delays a phase of incident light to change the polarization of the incident light (It is obvious that the function of a half wavelength change the polarization of the light). The motivation for doing so would have been to align with the incident light beam.

In regards to claim 16, Kim et al does not but Ichimura et al discloses the comprising a relay lens (Fig. 14, element 17) disposed on one of an optical path between the first light module (Fig. 14, element 16) and the beam splitter (Fig. 14, element 20) and an optical path between the second light module and the beam splitter and which changes a divergent angle of incident light (Fig. 14). The motivation is the same as claim 15 above.

5. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al in view of Noguchi et al (US Patent Number 5309423).

In regards to claim 11, Kim discloses everything that is claimed in claim 1. However, Kim does not disclose the compatible optical pickup apparatus, further comprising a second mirror disposed on an optical path between the beam splitter and the objective lens which and reflects the first and second beams emitted from the first

and second light modules so that the paths of the first and second beams are changed and phases of the first and second beams are shifted.

In the same field of endeavor, Noguchi et al discloses the compatible optical pickup apparatus, further comprising a second mirror disposed on an optical path between the beam splitter and the objective lens which and reflects the first and second beams emitted from the first and second light modules so that the paths of the first and second beams are changed and phases of the first and second beams are shifted (Fig. 3, the mirror 31 is between the prism 52 and the objective lens 32). At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the Kim et al first mirror to be coated for a phase shift of the beam as taught by Noguchi et al. The motivation for doing so would have been to maintain the correct beam polarization for a correct reading.

In regards to claim 12, Kim et al does not but Noguchi et al discloses the second mirror is coated with a coating which shifts the phase of the first beam so as to invert a polarization of the first beam (Column 1, lines 20-25). The motivation is the same as claim 11 above.

7. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al in view of Ichimura et al as applied to claim 14 above, and further in view of Arai et al (US Patent number 6870805).

In regards to claim 17, Kim et al and Ichimura et al does not but Arai et al discloses a collimating lens (Fig. 67, element 2) disposed on an optical path between the beam splitter (Fig. 67, element 6) and the objective lens (Fig. 67, element 1) which condenses divergent light incident from the first and second light modules to convert the divergent light into parallel light (Fig. 67). At the time of the invention it would have been obvious to person of ordinary skill in the art to modify Kim et al and Ichimura et al optical pickup to have a collimating lens between the objective lens and beam splitter as taught by Arai et al. The motivation for doing so would have been to create a parallel lights passing through the objective lens.

Response to Arguments

Applicant's arguments, see page 8, filed 2/15/07, with respect to the rejection(s) of claim(s) 14 under Mogi et al in view of Ichimura have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Kim et al.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh T. Nguyen whose telephone number is 571-272-5513. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LN
May 10, 2007

WAYNE YOUNG
SUPERVISORY PATENT EXAMINER